

CLAIMS

1. A highly impact-resistant steel pipe characterized in that: the tensile strength TS of said steel pipe is 1,700 MPa or more; and the YR thereof, said  
5 YR being the ratio of the 0.1%-proof stress YS to said tensile strength TS (YS/TS), is 72% or less.

2. A highly impact-resistant steel pipe characterized in that: the tensile strength TS of said steel pipe is 1,800 MPa or more; and the YR thereof, said  
10 YR being the ratio of the 0.1%-proof stress YS to said tensile strength TS (YS/TS), is 70% or less.

3. A highly impact-resistant steel pipe characterized in that: the tensile strength TS of said steel pipe is 1,900 MPa or more; and the YR thereof, said  
15 YR being the ratio of the 0.1%-proof stress YS to said tensile strength TS (YS/TS), is 68% or less.

4. A highly impact-resistant steel pipe characterized in that: the tensile strength TS of said steel pipe is 2,000 MPa or more; and the YR thereof, said  
20 YR being the ratio of the 0.1%-proof stress YS to said tensile strength TS (YS/TS), is 66% or less.

5. A highly impact-resistant electric-resistance-welded steel pipe characterized in that: the tensile strength TS of said steel pipe is 1,700 MPa or more; and  
25 the Si amount in the steel of said steel pipe is controlled in the range from Mn/8 - 0.07 to Mn/8 + 0.07 (mass %).

6. A highly impact-resistant steel pipe according to any one of claims 1 to 4, characterized in that the  
30 dislocation density of said steel pipe is in the range from  $10^{10}$  to  $10^{14}/\text{mm}^{-2}$ .

7. A highly impact-resistant steel pipe according to any one of claims 1 to 5, characterized in that the steel of said steel pipe contains, in mass, 0.19 to 0.35%  
35 C, 0.10 to 0.30% Si, 0.5 to 1.60% Mn, not more than 0.025% P, not more than 0.01% S, 0.010 to 0.050% Al, 2 to 35 ppm B, and 0.005 to 0.05% Ti as indispensable

components.

8. A highly impact-resistant steel pipe according to claim 7, characterized in that the steel of said steel pipe further contains, in mass, one or more components selected from among the group of 0.005 to 0.050% Nb, 0.005 to 0.070% V, 0.005 to 0.5% Cu, 0.1 to 0.5% Mo, 0.1 to 0.5% Ni, not more than 0.01% Ca, and not more than 0.1% rare earth metals (REMs).

9. A highly impact-resistant steel pipe according to any one of claims 1 to 5, characterized in that 95% or more of the microstructure of said steel pipe is transformed into martensite by induction hardening and the prior austenite grain size number of said steel pipe is #6 or more.

10. A highly impact-resistant steel pipe according to any one of claims 1 to 5, characterized in that said steel pipe has a round or square sectional shape.

11. A method for producing a highly impact-resistant steel pipe according to any one of claims 1 to 5, characterized in that said steel pipe containing, in mass, 0.19 to 0.35% C, 0.10 to 0.30% Si, 0.5 to 1.60% Mn, not more than 0.025% P, not more than 0.01% S, 0.010 to 0.050% Al, 2 to 35 ppm B, and 0.005 to 0.05% Ti as indispensable components, and further one or more components selected from among the group of 0.005 to 0.050% Nb, 0.005 to 0.070% V, 0.005 to 0.5% Cu, 0.1 to 0.5% Mo, 0.1 to 0.5% Ni, not more than 0.01% Ca, and not more than 0.1% rare earth metals (REMs), is subjected to induction heating and then water quenching.

12. A method for producing a highly impact-resistant steel pipe according to claim 11, characterized in that the cooling rate of said water quenching is 100°C/sec. or higher.

13. A method for producing a highly impact-resistant steel pipe according to claim 11 or 12, characterized in that the cooling water temperature of said water quenching is 35°C or lower.